

REMARKS

Claims 1-14 are pending. Claims 3-14 are indicated as being allowable. A minor editorial amendment is made to the preamble of allowable claim 12.

Claims 1-2 are rejected as being obvious over the admitted prior art of Fig. 7. Applicant respectfully traverses this rejection. Claim 1 is amended to recite the compressor in each of the low and high temperature side circuits to make the claim easier to understand.

In Fig. 7, the refrigerant tank 17 is connected to the low-temperature side refrigerant circuit L. On the other hand, referring to Fig. 1 as an example, claim 1 recites a refrigerant tank 7 connected to the high-temperature side refrigerant circuit H. In the operation of a binary refrigerant circuit such as set forth in claim 1 and such as shown in Fig. 1, during the time the compressor is stopped, the refrigerant pressure in the high-temperature side refrigerant circuit H is much higher than the refrigerant pressure in the low-temperature side refrigerant circuit L. However, because of tank 7, these pressures balance out. See specification page 13, line 24 to page 14, line 21.

The circuit of the binary unit of the invention has a novel and advantageous effect. According to the refrigerant circuit of claim 1, no large load is applied when the compressor of the high-temperature side refrigerant circuit H is started because the pressure has been balanced by the tank 7. By providing a high-temperature side refrigerant tank, the binary circuit is able to use a compact motor for the compressor of the high-temperature side refrigerant circuit. This reduces both the amount of power consumption and the noise.

Accordingly, claim 1 defines a binary refrigerant unit that has a novel and advantageous result. The use of the refrigerant tank 7 connected to the low-pressure side of the high-temperature binary unit is not just a mere duplication of the refrigerant tank 17 connected to the low-temperature circuit as contended by the Examiner. It is a recognition of a problem (starting torque needed for the compressor in the high-temperature circuit), and providing a solution for said problem (tank 7).

Accordingly, claim 1 is clearly patentable and should be allowed.

Claim 2, which depend from claim 1, has been amended to be consistent with the language of claim 1.

Claim 15 has been added. This claim depends from claim 1 and further sets forth the refrigerant tank connected to a low-pressure refrigerant suction side of the low-temperature side refrigerant circuit. This is a complete novel binary unit of the type such as shown in Fig. 1. The advantages of the binary unit using the refrigerant tank connected to the high temperature side of the unit as set forth in claim 1 apply equally here. Therefore, new claim 15 also should be allowable.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Prompt and favorable action is requested.

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Respectfully submitted,

By 

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